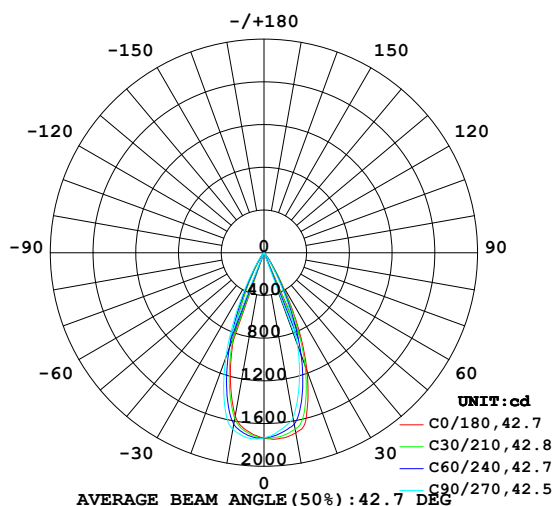


LUMINAIRE PHOTOMETRIC TEST REPORT

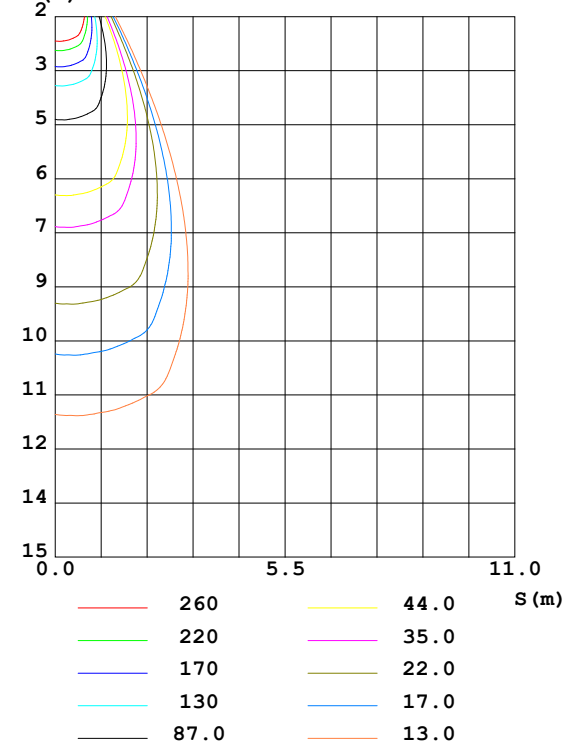
Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 65.54 lm/W
MODEL	CITIZEN-3000K	I <sub>max</sub> (cd)	1750	S/MH (C0/180)	0.61	
NOMINAL POWER (W)	11	LOR (%)	100.2	S/MH (C90/270)	0.67	
RATED VOLTAGE (V)	31	TOTAL FLUX (lm)	866.85	$\eta$ UP, DN (C0-180)	0.0, 49.7	
NOMINAL FLUX (lm)	865.478	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 50.4	
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE (V)	30.63	$\eta$ down (%)	100.2	CIBSE SHR MAX	0.65	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jasoan  
Test Date: 2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 8.967m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1712	1655	1567	1565	1553	1604	1678	1672	0- 10	160.7	160.7	18.5,18.6
20	1177	1070	914.4	833.6	818.5	902.3	1047	1136	10- 20	372.2	532.9	61.5,61.6
30	331.0	279.5	218.8	167.7	170.6	195.9	248.8	330.7	20- 30	260.0	792.8	91.5,91.6
40	40.65	32.40	25.03	20.82	22.46	26.99	33.89	41.76	30- 40	61.07	853.9	98.5,98.7
50	6.474	5.472	3.961	3.373	4.127	5.036	5.742	6.931	40- 50	10.14	864.1	99.7,99.8
60	1.657	1.251	0.5564	0.6826	0.9352	1.327	1.630	1.722	50- 60	2.360	866.4	100,100
70	0.0597	0.0409	0.0164	0.0381	0.0326	0.0382	0.0547	0.0409	60- 70	0.3600	866.8	100,100
80	0.0380	0.0327	0.0164	0.0299	0.0326	0.0300	0.0383	0.0299	70- 80	0.0365	866.8	100,100
90	0.0271	0.0300	0.0164	0.0299	0.0326	0.0273	0.0328	0.0299	80- 90	0.0321	866.8	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 860.94 lm

%lum = 99.3%

%lamp = 99.5%

Conical surface Flux(120deg): 866.42 lm

%lum = 100.0%

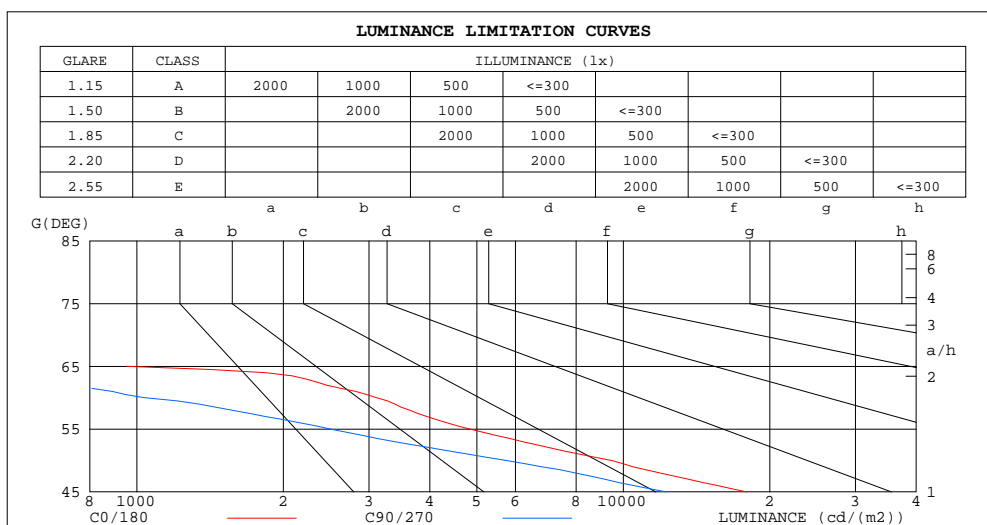
%lamp = 100.1%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### LUMINANCE LIMITATION CURVES

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	409	175
80	205	88
75	158	59
70	164	45
65	951	36
60	3109	1037
55	4836	2500
50	9447	5739
45	17934	12257

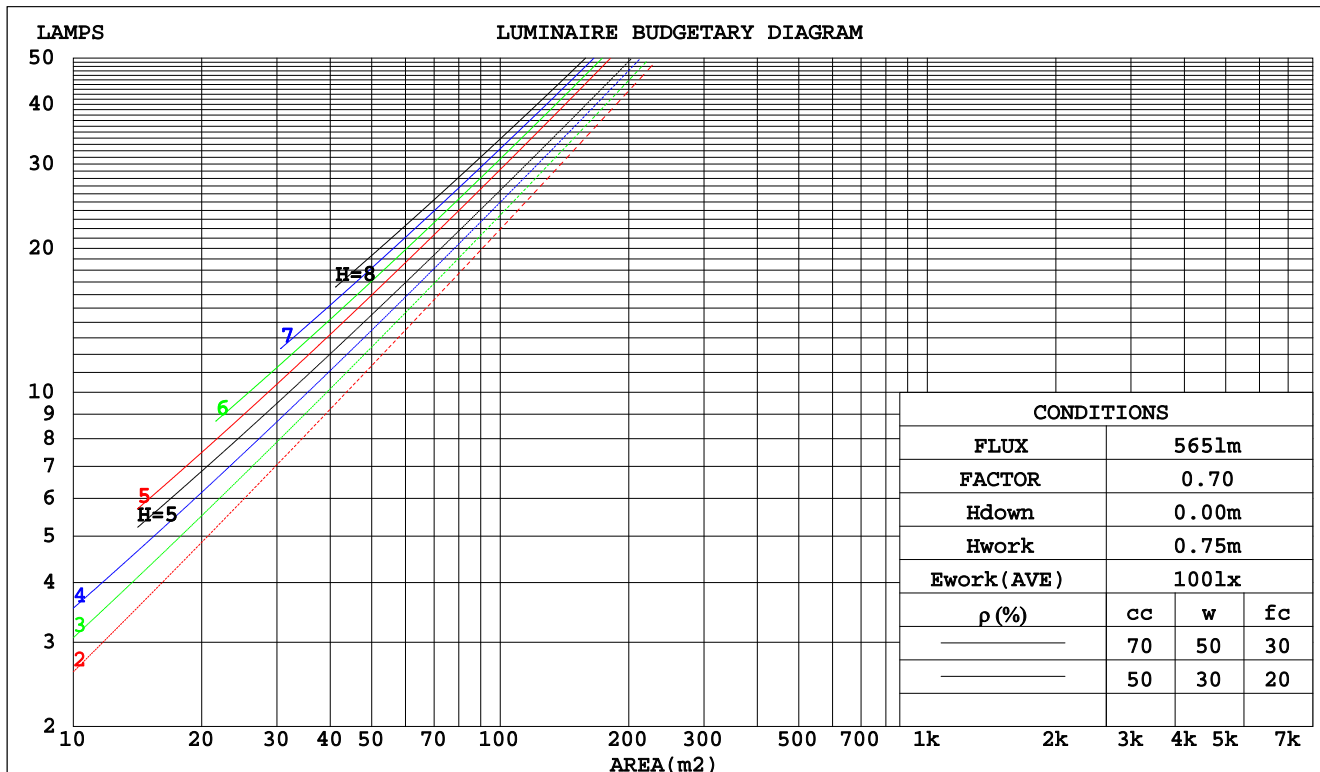
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.07	1.07	1.07	1.02	1.02	1.02	1.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96
2.0	1.06	1.03	.00	1.04	1.01	.99	1.01	.99	.96	.98	.96	.94	.96	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.97	.93	.91	.94	.92	.89	.92	.90	.88	.87
4.0	.95	.91	.87	.94	.90	.87	.92	.89	.86	.90	.87	.85	.89	.86	.84	.83
5.0	.91	.86	.82	.90	.85	.82	.88	.84	.81	.87	.83	.81	.85	.82	.80	.79
6.0	.87	.82	.78	.86	.81	.78	.85	.80	.77	.83	.80	.77	.82	.79	.76	.75
7.0	.83	.78	.74	.82	.78	.74	.81	.77	.74	.80	.76	.74	.79	.76	.73	.72
8.0	.79	.74	.71	.79	.74	.71	.78	.74	.71	.77	.73	.70	.76	.73	.70	.69
9.0	.76	.71	.68	.76	.71	.68	.75	.71	.68	.74	.70	.67	.73	.70	.67	.66
10.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.67	.65	.71	.67	.64	.63



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### WEC AND CCEC

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0	
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.154	.087	.028	.147	.084	.027	.134	.077	.025	.123	.071	.023	.112	.065	.021		
2.0	.144	.079	.024	.139	.077	.024	.129	.072	.022	.119	.067	.021	.110	.062	.020		
3.0	.136	.073	.022	.132	.071	.021	.123	.067	.020	.115	.063	.019	.107	.059	.018		
4.0	.129	.067	.020	.125	.065	.019	.118	.062	.019	.111	.059	.018	.104	.057	.017		
5.0	.123	.063	.018	.119	.061	.018	.113	.059	.017	.107	.056	.017	.101	.054	.016		
6.0	.117	.059	.017	.114	.058	.017	.108	.056	.016	.103	.054	.016	.098	.052	.015		
7.0	.112	.055	.016	.109	.054	.016	.104	.053	.015	.100	.051	.015	.095	.050	.015		
8.0	.107	.052	.015	.105	.052	.015	.100	.050	.014	.096	.049	.014	.093	.048	.014		
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.093	.047	.013	.090	.046	.013		
10.0	.099	.047	.013	.097	.047	.013	.094	.046	.013	.090	.045	.013	.087	.044	.013		

ρcc	80%			70%			50%			30%			10%			0	
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)										
0.0	.191	.191	.191	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.170	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013		
3.0	.139	.114	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011		
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009		
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008		
6.0	.110	.077	.053	.094	.066	.046	.065	.047	.033	.038	.027	.019	.012	.009	.006		
7.0	.103	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.005		
8.0	.097	.062	.039	.083	.054	.034	.058	.038	.024	.033	.022	.014	.011	.007	.005		
9.0	.091	.057	.034	.079	.049	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004		
10.0	.087	.052	.029	.075	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004		

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:8.967m [K=1.0000]  
 Remarks:

## UGR(Unified Glare Rating) Table

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm										
NAME: MINUX 44-9W-930-40D					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: $\varnothing$ 51mm*H92mm					
MFR.: NEKO LIGHTING AG										
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	18.1	18.8	18.3	19.0	19.1	15.7	16.5	15.9	16.6	16.8
3H	17.9	18.6	18.1	18.8	19.0	15.5	16.3	15.8	16.5	16.6
4H	17.8	18.5	18.1	18.7	18.9	15.5	16.1	15.7	16.4	16.6
6H	17.7	18.4	18.0	18.6	18.8	15.4	16.0	15.7	16.2	16.5
8H	17.7	18.3	18.0	18.5	18.8	15.3	15.9	15.6	16.2	16.4
12H	17.6	18.2	18.0	18.5	18.8	15.3	15.9	15.6	16.1	16.4
4H 2H	17.8	18.5	18.1	18.7	18.9	15.5	16.1	15.7	16.4	16.6
3H	17.6	18.2	18.0	18.5	18.8	15.3	15.9	15.6	16.1	16.4
4H	17.5	18.1	17.9	18.4	18.7	15.2	15.7	15.5	16.0	16.3
6H	17.4	17.9	17.8	18.3	18.6	15.1	15.6	15.5	15.9	16.2
8H	17.4	17.8	17.8	18.2	18.5	15.0	15.5	15.4	15.8	16.2
12H	17.3	17.7	17.7	18.1	18.5	15.0	15.4	15.4	15.8	16.2
8H 4H	17.4	17.8	17.8	18.2	18.5	15.0	15.5	15.4	15.8	16.2
6H	17.3	17.7	17.7	18.0	18.5	14.9	15.3	15.4	15.7	16.1
8H	17.2	17.6	17.7	18.0	18.4	14.9	15.2	15.3	15.6	16.1
12H	17.2	17.4	17.6	17.9	18.4	14.8	15.1	15.3	15.5	16.0
12H 4H	17.3	17.7	17.7	18.1	18.5	15.0	15.4	15.4	15.8	16.2
6H	17.2	17.6	17.7	18.0	18.4	14.9	15.2	15.3	15.6	16.1
8H	17.2	17.4	17.6	17.9	18.4	14.8	15.1	15.3	15.5	16.0
Variations with the observer position at spacings:										
S = 1.0H	+ 4.3 / -12.8					+ 3.4 / -13.8				
1.5H	+ 6.7 / -10.4					+ 5.7 / - 9.4				
2.0H	+ 6.0 / - 7.6					+ 5.7 / -11.6				

CIE Pub.117, 865.5 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -0.5$ )

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

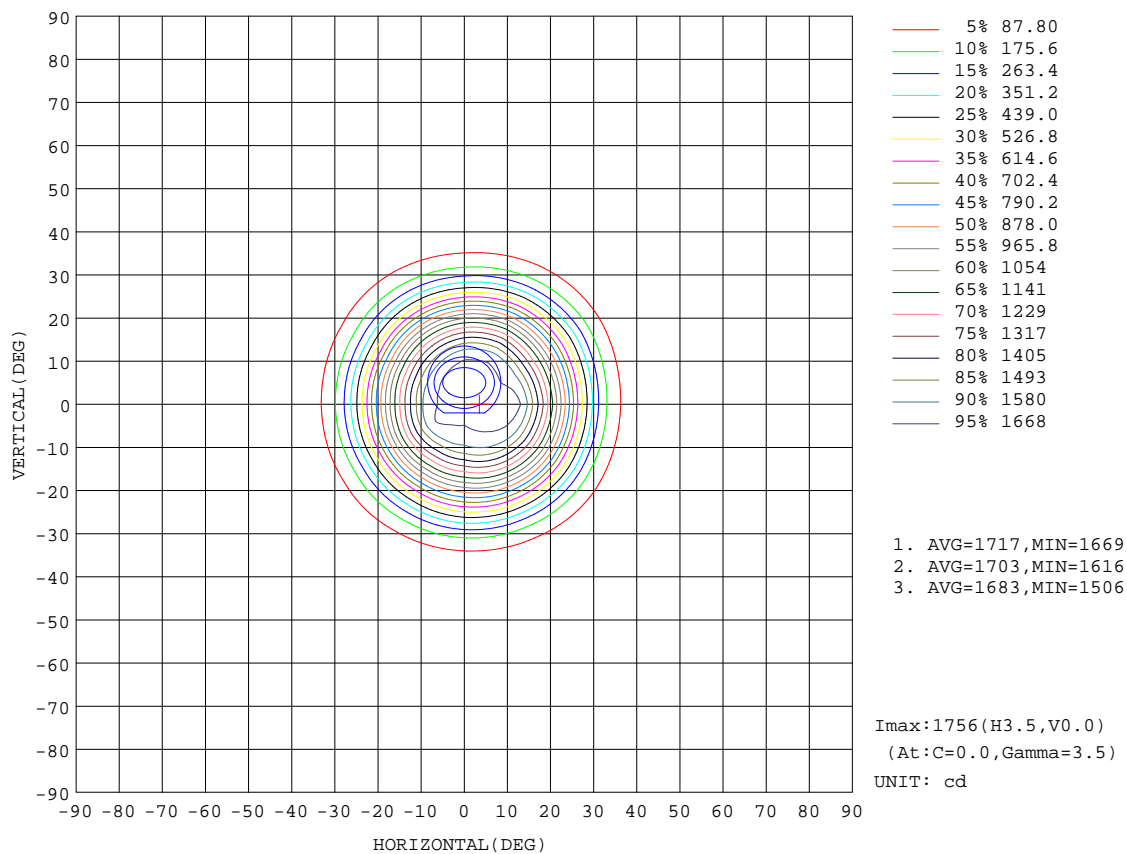
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	90	85	81	90	84	81	78
0.80	98	93	89	97	92	89	96	92	89	85
1.00	102	97	93	101	96	93	99	96	93	89
1.25	105	101	97	104	100	97	102	99	96	92
1.50	108	103	100	107	103	100	104	101	99	95
2.00	110	106	103	109	105	102	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	110	107	111	108	106	108	106	104	98
4.00	115	112	110	113	111	109	109	107	106	99
5.00	116	114	112	114	112	111	110	109	107	100
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:8.967m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



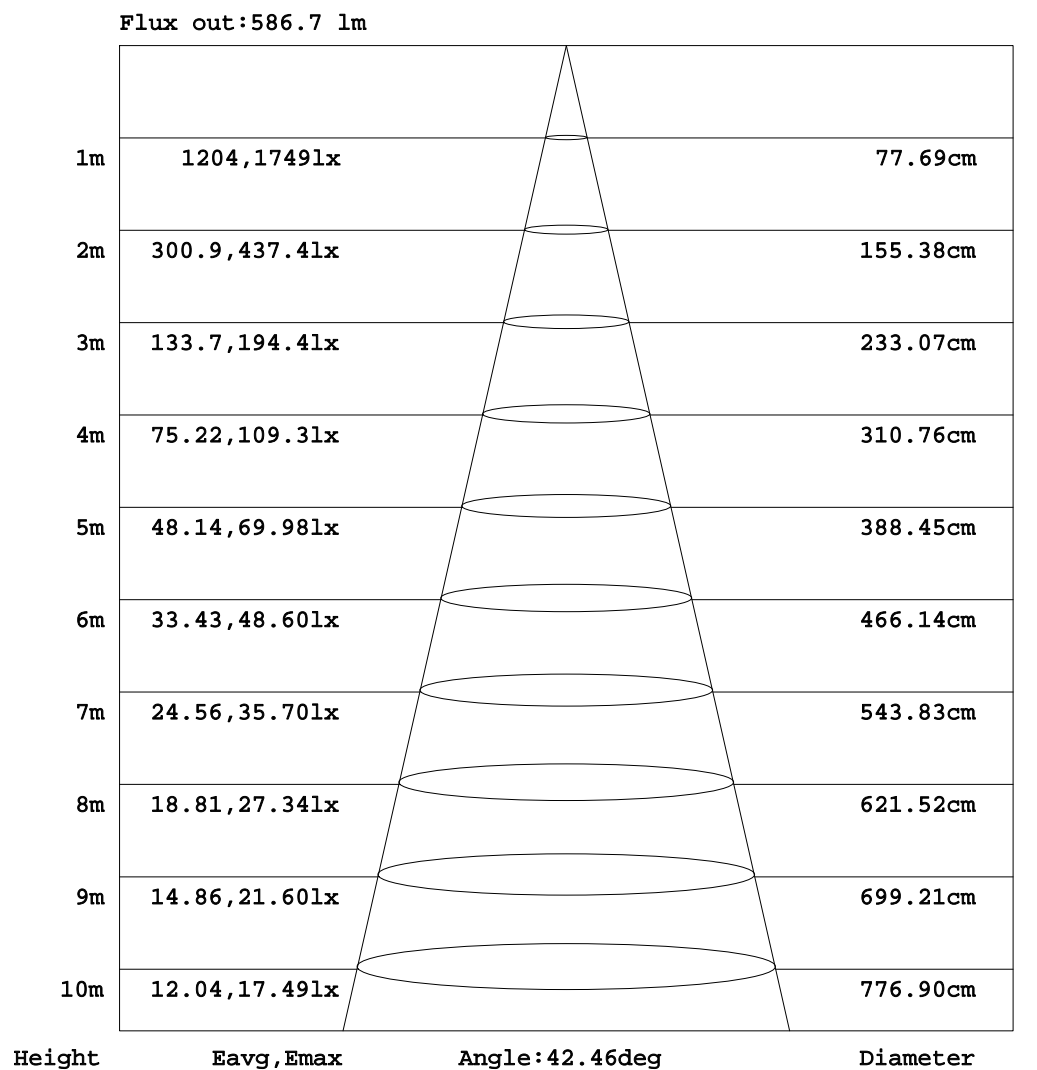
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 51\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		



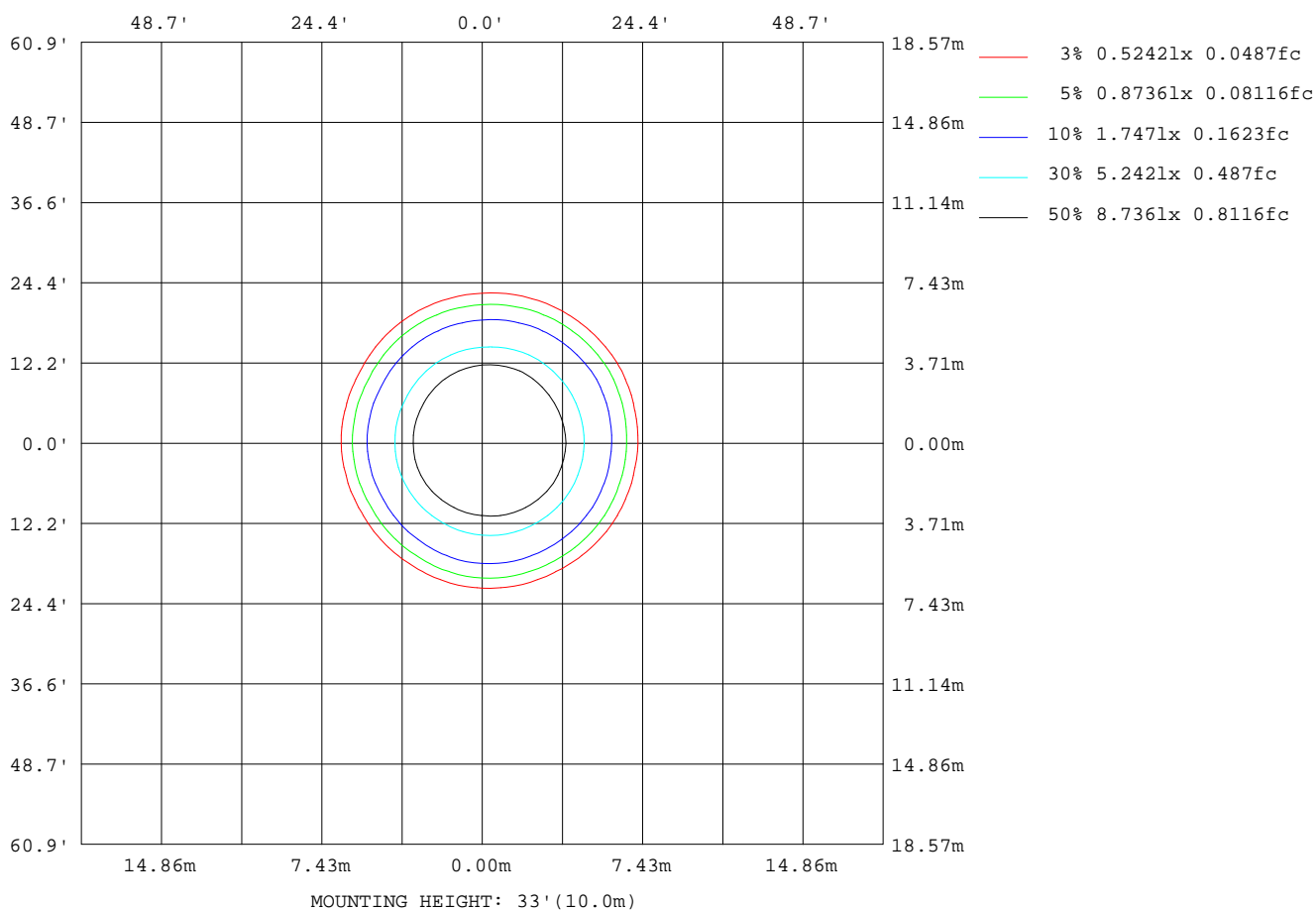
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:221.1V I:0.0636A P:13.23W PF:0.9409 Freq:49.99Hz Lamp Flux:865.478x1 lm		
NAME: MINUX 44-9W-930-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

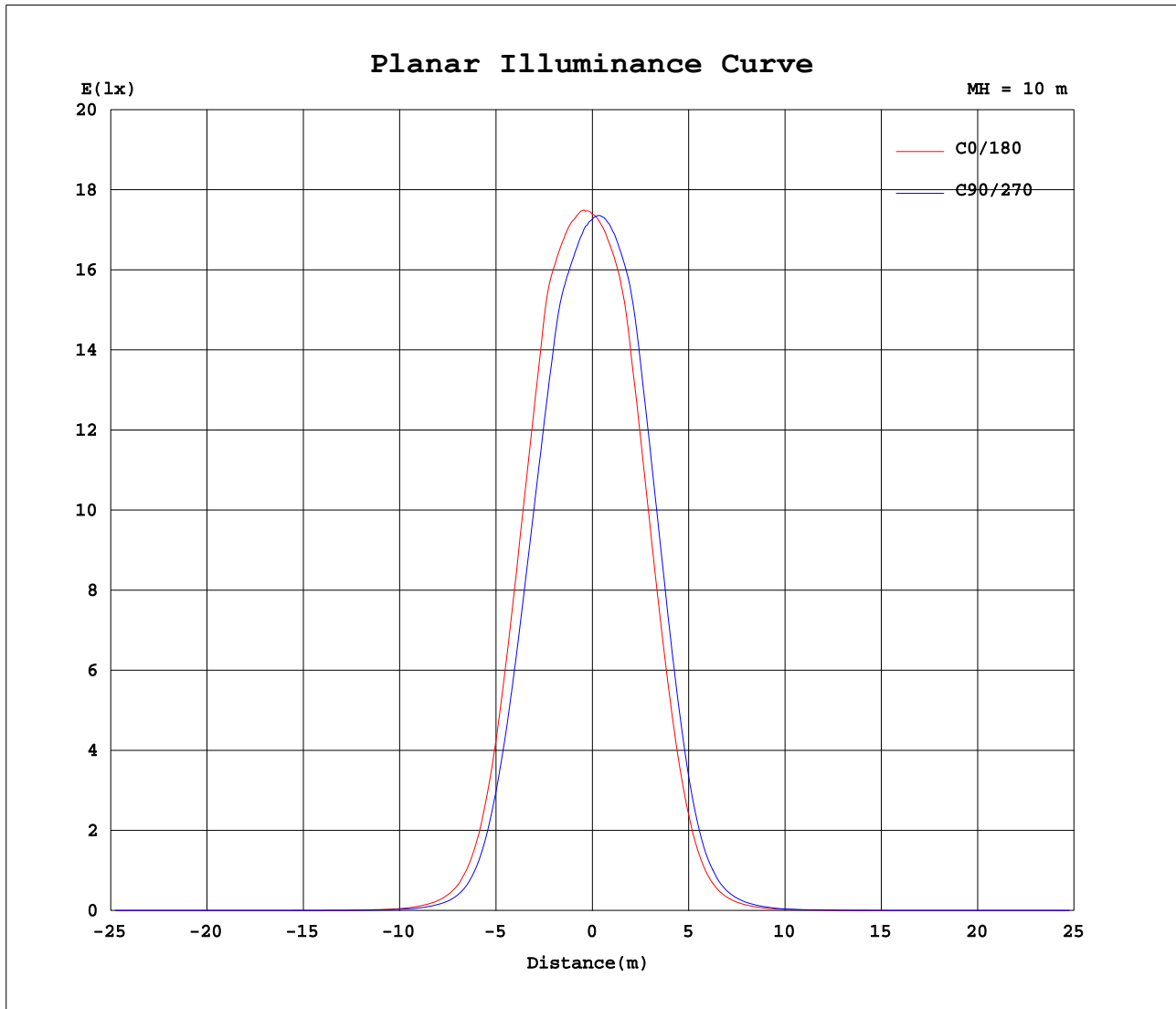
AvgL	cd/m2
L_0~180 (65) av	510
L_0~180 (75) av	137
L_0~180 (85) av	378
L_90~270 (65) av	196
L_90~270 (75) av	99
L_90~270 (85) av	264
L_45 (65) av	404
L_45 (75) av	123
L_45 (85) av	313

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jasoan  
Test Date: 2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 8.967m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

```